

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P589004

Luminaire Tested: **FMR-24-2-LD4-2HI-35-UNV-82-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589004  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2HI-35-UNV-82-97-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

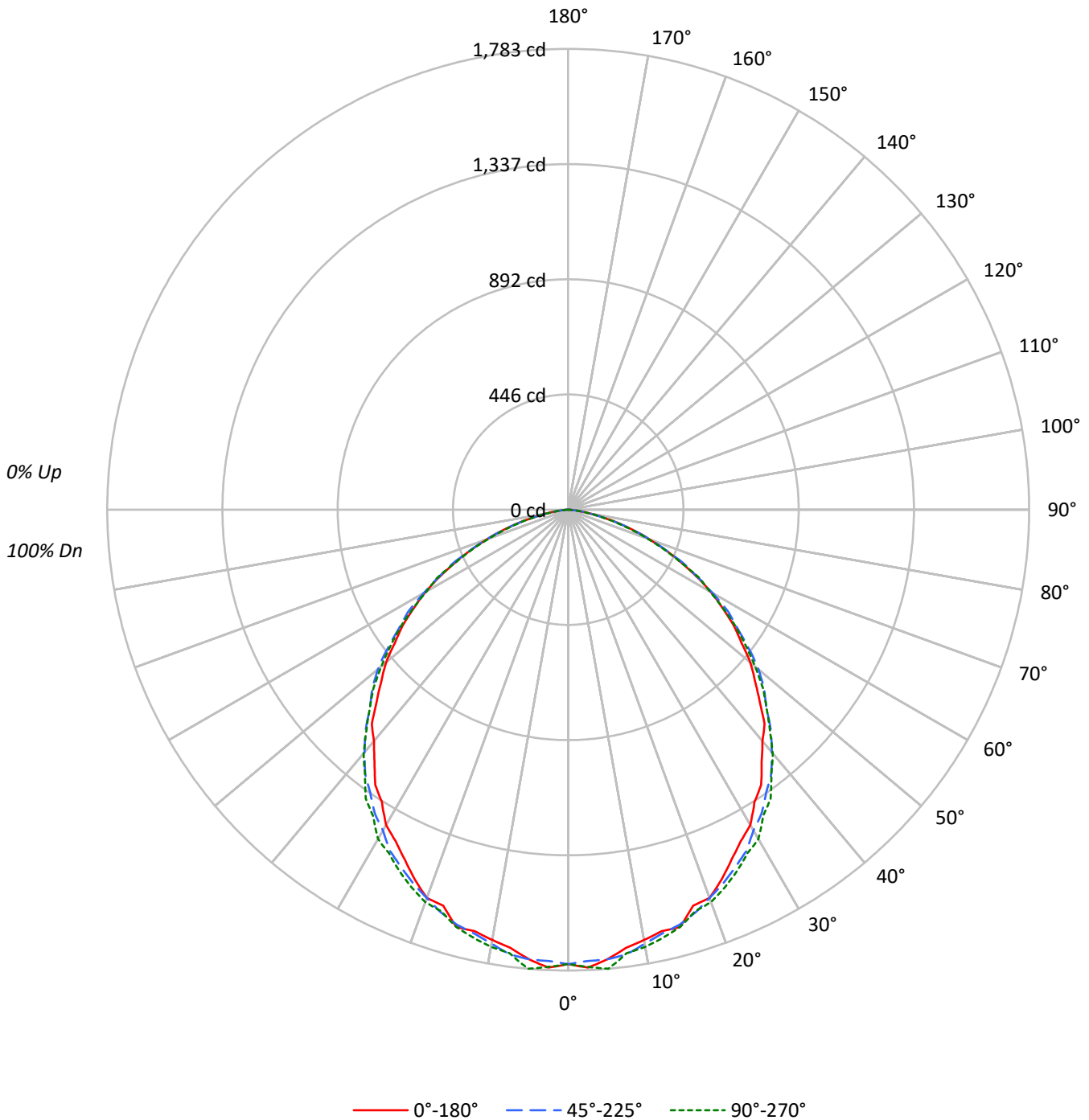
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4431.0 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4731	4731	4731
5°	4715	4717	4817
10°	4620	4660	4693
15°	4656	4631	4657
20°	4578	4578	4627
25°	4437	4534	4584
30°	4376	4453	4571
35°	4273	4385	4483
40°	4106	4304	4324
45°	3983	4124	4130
50°	3852	4026	3949
55°	3670	3741	3715
60°	3432	3466	3404
65°	3060	3138	3039
70°	2626	2634	2561
75°	2079	2074	1994
80°	1393	1354	1302
85°	756	750	701



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.4	3.7
10°-20°	468.7	10.6
20°-30°	702.2	15.8
30°-40°	832.3	18.8
40°-50°	833.8	18.8
50°-60°	707.7	16.0
60°-70°	477.2	10.8
70°-80°	209.7	4.7
80°-90°	34.1	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1336.3	30.2
0°-40°	2168.5	48.9
0°-60°	3710.1	83.7
0°-90°	4431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4431.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1758	1758	1758	1758	1758	
5°	1746	1742	1746	1741	1783	165
15°	1671	1652	1662	1671	1672	466
25°	1494	1502	1527	1547	1544	691
35°	1301	1305	1335	1366	1365	808
45°	1046	1066	1084	1112	1085	810
55°	782	777	797	792	792	696
65°	481	474	493	474	477	478
75°	200	196	200	186	192	214
85°	24	24	24	24	23	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1758.1	1758.1	1758.1	1758.1	1758.1
2.5°	1773.3	1759.9	1747.4	1762.0	1770.8
5°	1745.6	1741.5	1746.3	1741.1	1783.1
7.5°	1709.8	1725.4	1734.5	1728.8	1731.3
10°	1690.7	1685.2	1705.4	1719.5	1717.5
12.5°	1670.3	1678.4	1679.6	1694.8	1696.1
15°	1671.4	1652.1	1662.3	1670.9	1671.6
17.5°	1606.5	1627.4	1634.4	1654.1	1629.6
20°	1598.5	1583.3	1598.5	1618.7	1615.6
22.5°	1549.7	1532.7	1565.4	1583.3	1582.2
25°	1494.3	1502.5	1527.0	1547.0	1543.8
27.5°	1445.8	1455.3	1490.2	1517.7	1500.0
30°	1408.3	1403.5	1433.0	1457.6	1471.2
32.5°	1341.3	1358.6	1393.1	1417.4	1404.4
35°	1300.7	1304.6	1334.8	1365.6	1364.7
37.5°	1229.7	1247.6	1290.0	1298.7	1290.7
40°	1169.0	1187.0	1225.3	1234.6	1230.8
42.5°	1124.3	1127.5	1160.4	1171.1	1154.1
45°	1046.5	1066.0	1083.7	1111.6	1085.3
47.5°	980.2	989.3	1027.4	1034.9	1021.0
50°	920.0	923.2	961.6	952.3	943.2
52.5°	844.4	857.8	879.4	877.6	866.9
55°	782.2	777.0	797.4	792.0	791.8
57.5°	707.6	716.6	733.4	724.8	711.0
60°	637.6	637.9	644.0	634.2	632.4
62.5°	559.8	562.5	563.9	551.8	571.4
65°	480.6	474.2	492.8	474.0	477.2
67.5°	407.7	410.9	409.1	397.2	401.8
70°	333.7	337.8	334.8	321.4	325.5
72.5°	266.0	261.0	264.2	247.4	255.1
75°	200.0	195.9	199.5	185.5	191.8
77.5°	136.2	139.4	137.1	129.6	133.9
80°	89.9	87.4	87.4	83.1	84.0
82.5°	52.4	49.9	49.3	47.9	49.9
85°	24.5	23.8	24.3	23.6	22.7
87.5°	8.9	9.1	9.1	8.6	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)